

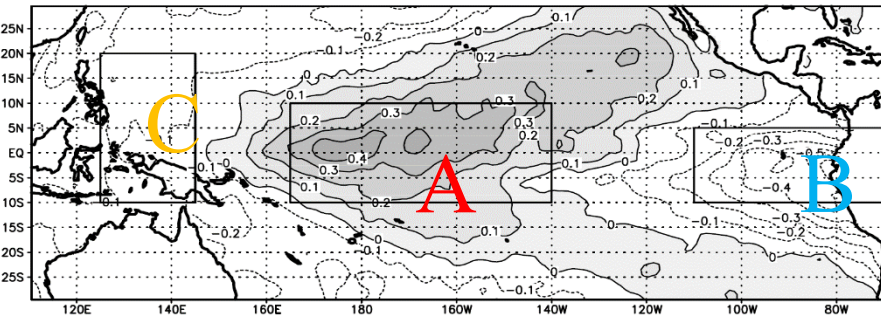
Relation between Regional-Scale Indonesian Precipitation and Large-Scale Atmospheric Circulation

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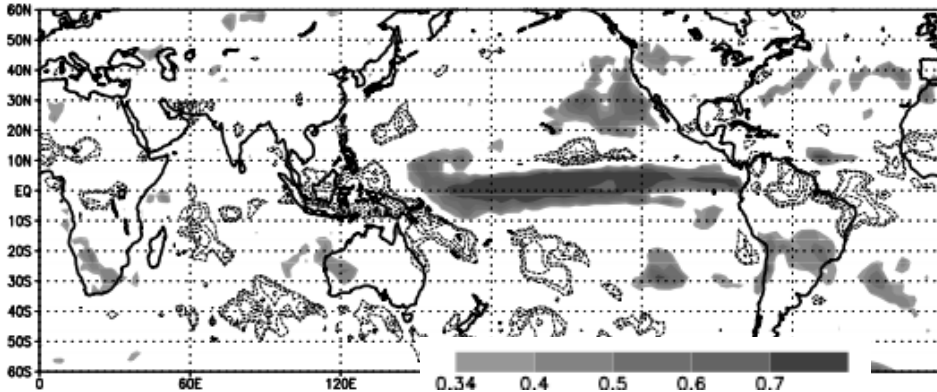
Partial correlations of Precipitation with climate indices

(b) EOF2 (HadISSTA from 1979–2004; 12%)



$$[SSTA]_A - 0.5 [SSTA]_B - 0.5[SSTA]_C$$

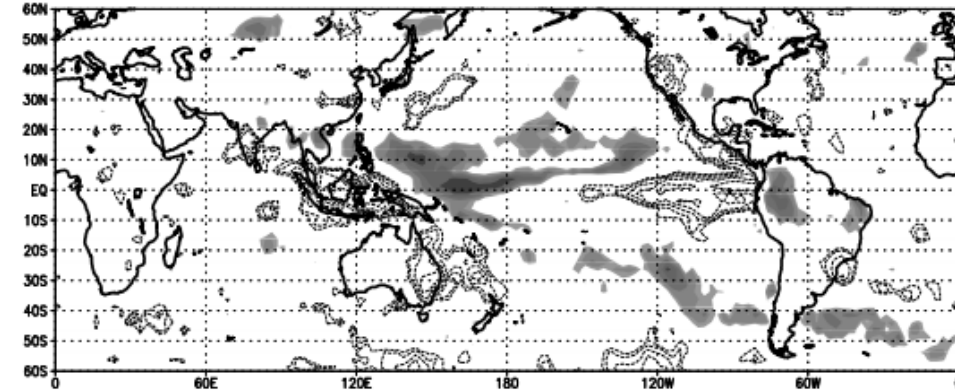
with Nino3 index



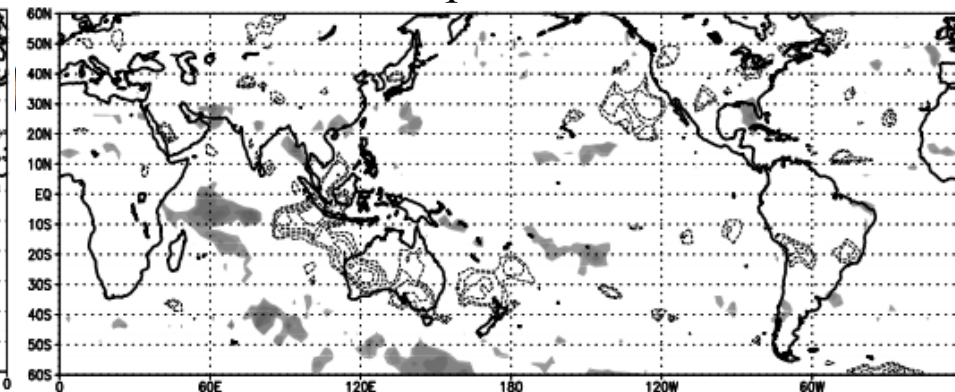
positive coefficients

negative coefficients: dashed contours

with El Nino Modoki index

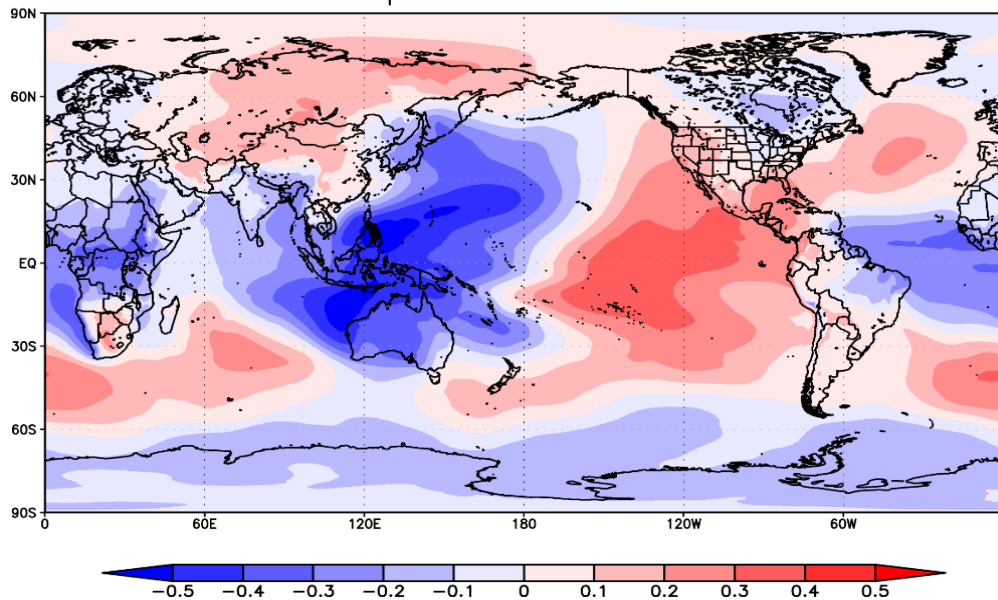


with Indian Ocean Dipole Mode Index

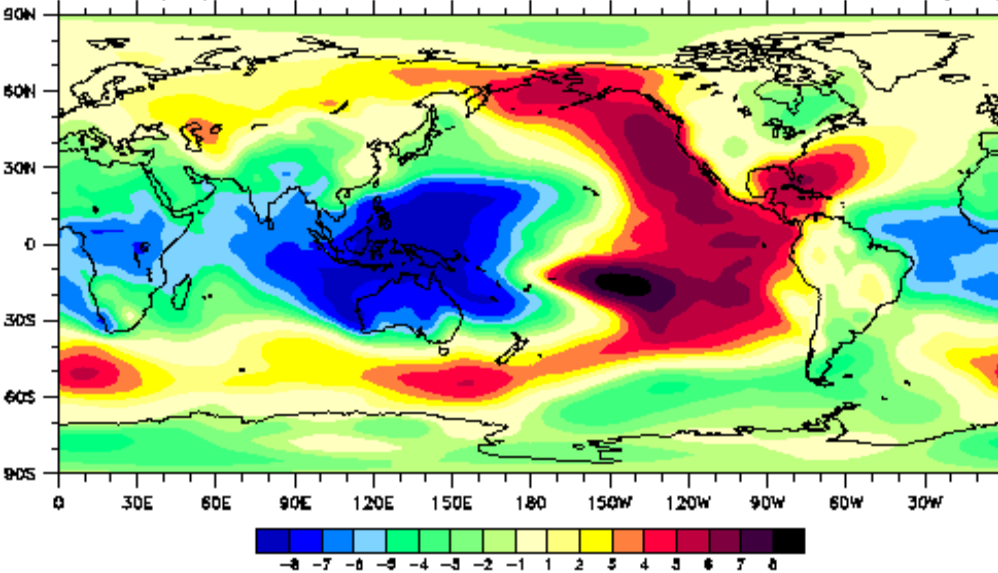


El Nino Modoki may more strongly influence Indonesia than El Nino.

DJF APHRODITE 1960-2007
Correlation Map of SLP and EOF2 Time Series

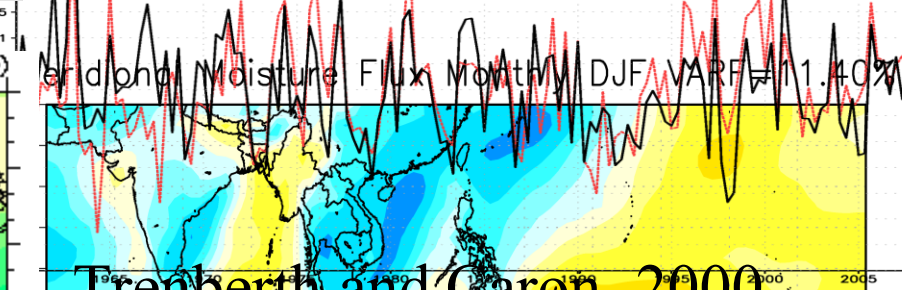
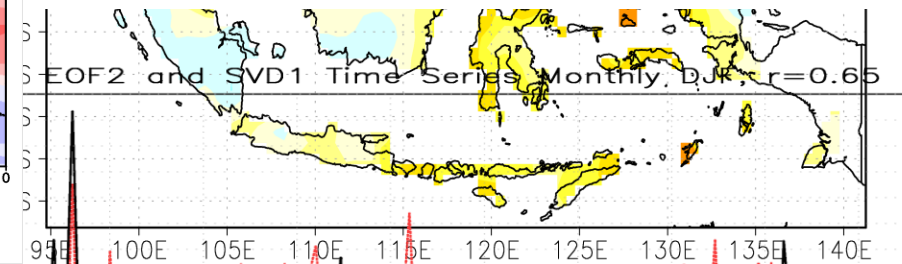


Seasonal (DJF) Mean 1958-1998 (x 10)



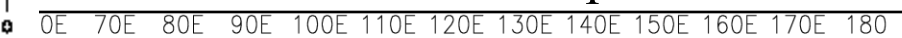
Heterogeneous Correlation Map for
precipitation and large-scale circulation in
wet season (Monthly DJF)
SVD1 SCF=62.68%

Explaining EOF Modes
(Monthly DJF)



Trenberth and Caron, 2000
Red dashed line : EOF2 Time Series
Corr. Map of SLP and S.OI
for Precipitation

Black solid line : SVD1 Time Series
for Precipitation



Questions to be answered

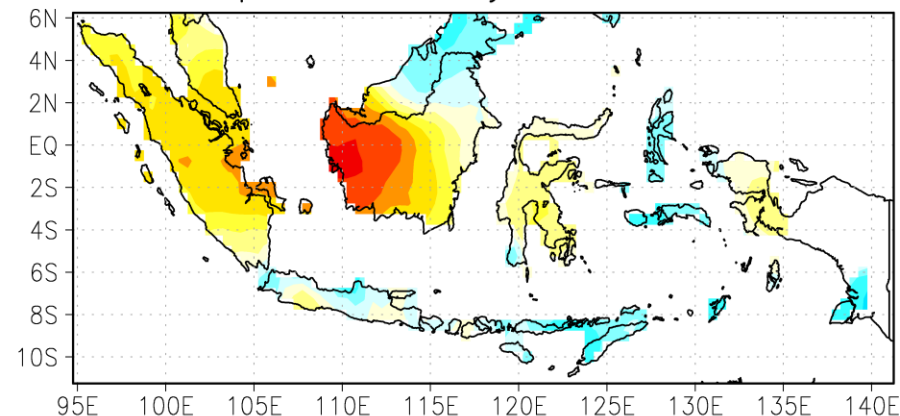
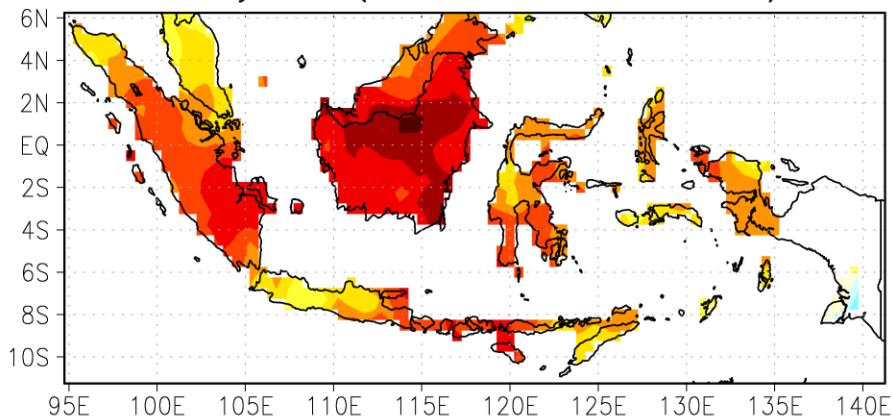
- Relation between precipitation and large-scale atmosphere
 - What are the relation between Indonesian precipitation and other climate indices (El Nino Modoki and Indian Ocean dipole).
 - Repeat analysis with these indices.
 - What large-scale circulation is associated with the SVD mode?
 - Correlation analysis of SLP onto SVD large-scale time series.
 - If we find two or more pole patterns, we will examine that pattern is robust or not by using one-point correlation analysis. This can lead to finding of a kind of teleconnection that is important for my country.
 - What physical mechanisms are existing in other EOF and SVD modes.
- Downscaling
 - How good the downscale is?
 - Evaluate the skill of SVD estimation of precipitation based on SVD mode calculated without specific year data with sliding that year.

Heterogeneous Correlation Map for precipitation and large-scale circulation in wet season (Monthly DJF)

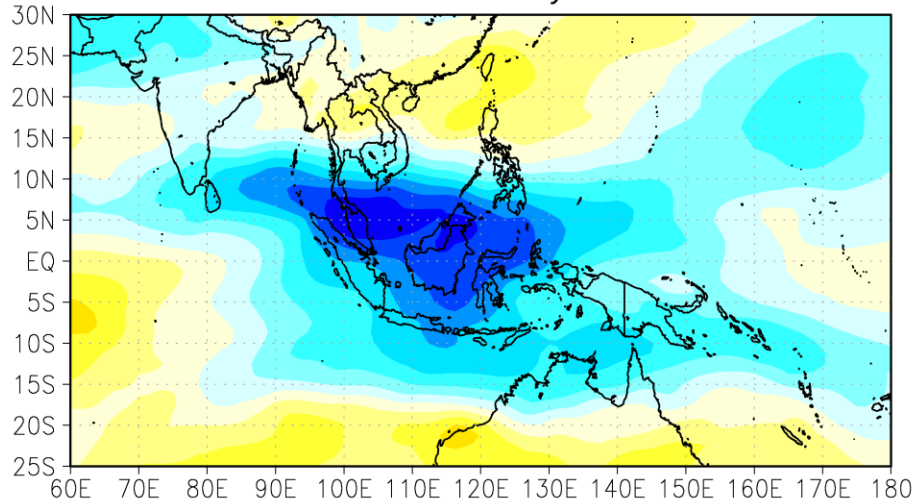
SVD2 SCF=22.48%

Precipitation Monthly DJF VARF=7.24%

EOF1 Monthly DJF (APHRODITE 1960–2007) 27.61%



Zonal Moisture Flux Monthly DJF VARF=5.06%



Meridional Moisture Flux Monthly DJF VARF=5.06%

